JiQ

Magazine on climate and sustainability

Vol. 20 - No. 2 • July 2014 - Groningen, the Netherlands ISSN: 1877-606X

Dutch Study on Voluntary Domestic Carbon Crediting Published

By Hans Warmenhoven*, Edwin Dalenoord** and Monique Voogt**

In April of this year, a study was published on stimulating GHG emission reductions in non-ETS sectors in the Netherlands through voluntary carbon markets. The study was commissioned by the Netherlands Ministry of Infrastructure and Environment. It recommends to start an experiment with projects aiming at realising a national crediting system and exploring and comparing currently operational local GHG crediting systems in the Netherlands.

In the Netherlands, there has been a lively debate among a wide range of stakeholders about whether and how GHG emission reductions achieved domestically could be traded as carbon credits, for sale at compliance markets, such as the EU ETS. Interest in this trading option was triggered by stakeholders operating in non-ETS sectors, hoping to benefits from the pricing of CO_2-emissions and emission reductions under the ETS (see, among others, JIQ issues: Autumn 2012, December 2010, July 2009).

An earlier study on such domestic offsetting in the Netherlands (Ecofys, 2012, *Costs and Effectiveness of Domestic Offsets Schemes*) concluded, based on a top-down analysis and considering technology-specific marginal abatement costs and transaction costs of operating such a scheme, that the total Dutch GHG emission reduction potential in non-ETS sectors through domestic offsets projects, amounts to 0.5 to 1 Mt CO_2-eq. per year only.

Bottom up perspective

The recent study took a more bottom up perspective by consulting non-ETS sector stakeholders and exploring their interests in GHG crediting scheme to support potential projects. While former studies on domestic offsets focused on whether and how GHG emission reduction products in non-ETS sectors could sell their credits to EU ETS installations, the main focus of this study was on the scope for selling project-based credits on a voluntary market.

The study concludes that the voluntary CO_2 market in the Netherlands is not transparent. This makes it difficult to precisely determine the amount of carbon credits traded and identify the main buyers of credits. In general, a distinction can be made between:

- the trading of internationally created verified emission reductions (VERs), based on internationally recognised standards. The total market size for these credits in the Netherlands is estimated at a maximum of 1.5 Mt (per year), which is relatively small compared to the approximate 100Mt emissions of the non EU ETS sectors in Netherlands.
- the trade in domestic credits created and purchased based on local crediting systems. There are several initiatives that offer locally produced credits, such as the Climate Fund Haaglanden and Zeeland Climate Fund. These initiatives have less stringent requirements than the internationally recognised standards. Generally the credits are created within relatively small projects.

Although the majority of the VERs are of international origin, buyers and sellers in the voluntary market agree that there is value in credits that have been created within the Netherlands. The two main reasons for this are:

- Some buyers find it more attractive to invest their money in the Netherlands and thus support the Dutch economy.
- Some buyers prefer to know where the credits come from and have the possibility to visit the underlying project. There is sometimes distrust in the credits created far abroad.

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For project developers in the Netherlands, it is advantageous if the possibility exists to generate additional revenue from the sale of carbon credits. The credits not only strengthen the business case of the project, but official recognition as a CO_2 reduction project also enhances the image of a project. The study questions though how many projects in the non-EU ETS sector could actually benefit from the voluntary carbon market.

Methodologies available

The study has, in consultation with possible (carbon) market stakeholders, analysed a number of project examples. It has demonstrated that generally for these projects GHG accounting methodologies are available and demonstrating additionality should not be a problem. However, for most of the analysed projects revenues from carbon credit trading is likely to be insufficient for covering the transaction costs related to GHG accounting steps (validation, verification, certification). Projects not yet included under an existing policy, and which could therefore be additional, are typically smaller and have an innovative character. These projects yield relatively few credits and consequently transaction costs are relatively high.

Therefore, the study concludes that the overall effect of a voluntary carbon market in non EU-ETS sectors in the Netherlands, in terms of emission reductions achieved, will be small. However, project developers interviewed for the study argue that if credits can be earned for projects in non-EU ETS sectors, this can create momentum for the realisation of new innovative projects. In addition, enabling voluntary emission reduction projects in non-EU ETS sectors is in line with local initiatives in the fields of energy and climate, such as the local energy co-operations.

Avoid double counting

Currently, carbon credits generated via projects in the Netherlands cannot be traded internationally as VERs. The reason is that the most widely used standards, such as VCS and the Gold Standard, demand that for VER issuance of projects located in a country with a cap on GHG emissions an equivalent of allowances is retired by the relevant authorities. In the non-EU ETS sectors this implies cancellation of AEAs by the Netherlands government.

The objective of this requirement is to avoid the double counting of emission reductions. It is recognized within the report, that double counting does not occur if the created credits are used in the same country for the voluntary offsetting of emissions in non EU ETS sectors. Therefore the retirement of annual emission allocations (AEA) by the government is not required for the environmental integrity of a national credit system, in which the credits are only used within the country where they are created and as long as the projects are truly additional.

The study concludes that confusion about crediting and offsetting of CO_2 in the Netherlands should be avoided. This might arise if many different CO_2 crediting systems are introduced, all with different GHG accounting rules. If confusion arises, this may lead to distrust in CO_2 crediting systems, negatively impacting CO_2 policies as a whole as well. It is therefore important that sellers of nationally produced credits explain what the affixed value is and simultaneously buyers understand what they are buying and what claim they can make based on the purchased credits.

Based on the study, the following recommendations are made:

- Start with an experiment aimed at realising a national crediting system. The initiative for such a system is principally with market actors, but the government should be involved to ensure the credibility of such a system. Initially, it is not necessary for the government to retire AEAs for the created credits. Later, should international credit prices increase and Article 24a of the EU ETS Directive be implemented, the retirement of AEAs could be required because it opens up a larger market for the credits. Given potential future linking to the EU ETS, it is important that the crediting system used for the experiment is sound, preferably derived from recognised international standards, such as the VCS or the Gold Standard or on national level, the CO_2 performance ladder.
- Identify all current local initiatives in the field of CO_2 crediting. If possible, discuss with the organisations behind these initiatives what the similarities and differences are and how they relate to the experiment mentioned in the first recommendation. The objective would be to jointly create clarity to buyers and sellers of credits on the differences and similarities between the various approaches.

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JOANNEUM RESEARCH Presents Survey on European Voluntary Carbon Market

By Dorian Frieden, Daniel Steiner, Claudia Fruhmann, Susanne Woess-Gallasch and Andreas Tuerk*

This article summarises a survey of ten European retailers of the voluntary carbon market (VCM).[1] These were chosen based on several assessments and rankings. In addition, some retailers were selected due to their innovative products. Surveyed retailers are: ARKTIK, Atmosfair, Klimarebellen, PrimaKlima Weltweit (all Germany), myclimate, South Pole Carbon (both Switzerland), Climate Neutral Group (the Netherlands), The CarbonNeutral Company, ClimateCare (both UK), and EcoAct (France).

Based on the analysis, a distinction can be made between services aimed at individuals and those targeting companies or other legal entities. Most retailers provide products for both types of customers. Only the CarbonNeutral Company and EcoAct offer no services for individuals. Individuals are primarily offered compensation for separate GHG emission sources or events such as flights, other transport-related emissions and sometimes household-related emission from, *e.g.,* heating and electricity.

VCM solutions offered by retailers to companies often include development of strategies for the reduction of the carbon footprint of a company before the compensation of unavoidable emissions is undertaken. About half of the retailers covered by the survey also inform individual customers that avoiding GHG emissions is preferred over offsetting emissions. Some retailers offer "climate education" programmes. Overall, a number of the analysed organisations are consultancies which also provide offsetting options rather than primarily being retailers of carbon credits.

Innovative products

In addition to the wide range of carbon management services, some retailers have developed specific and innovative products within their portfolio. Examples of such products are:

- the fuel card and climate vignette,
- the climate credit card,
- gift certificates or "trees",
- an airline emission index,
- the support of specific (partly additional or national) initiatives and organisations,
- multiple offsetting schemes, and
- the issuance of different types of labels.

International offset prices vary between €8.30 (Klimarebellen: €4 for CERs without the additional support of domestic initiatives) and €23. National offsets cost between €25 (Germany) and €72 (Switzerland).

Project types

Almost all retailers in the survey, except PrimaKlima Weltweit, offer offsets based on renewable energy and energy efficiency projects. PrimaKlima Weltweit specialises in forestry projects, while this project type is not covered by the portfolios of ARKTIK and Atmosfair. Methane reduction and recovery, as well as water treatment/access, are offered by five retailers.

Other, less frequently covered project types are biofuels and (biomass) fuel switch. Most retailers do not explicitly exclude specific project types but limit their supply to projects that are verified under specific standards. ClimateCare and EcoAct exclude national projects or projects in Annex B countries of the Kyoto Protocol (*i.e.* most industrialised countries) while some other retailers specifically supply products based on national projects and/or the additional support of (domestic) charitable organisations.

Carbon standards

All retailers analysed offer offsetting products based on international standards such as Verified Carbon Standard (VCS), Gold Standard/Carbon Fix, CDM, and Plan Vivo. PrimaKlima Weltweit also implements national projects based on their own criteria which serve as an add-on to international offsetting. While the applied standards for GHG emission reductions already include criteria for co-effects, some retailers also offer credits with additionally certified co-effects

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(Climate, Community and Biodiversity Alliance (CCBA) or Social Carbon standard).

Co-effects are often specifically promoted in project descriptions and include a broad range of impacts on, *e.g.*, poverty alleviation/employment, local renewable water and electricity provision and ecological impacts beyond the reduction of emissions.

GHG acccounting methods in VCM

The methods for calculating the amount of GHG emissions to be offset vary between retailers. Detailed information on the calculations and GHG accounting methods could be found. Some retailers do not calculate emissions themselves. In particular, the compensation of emissions from flights needs specific attention due to the increased impact of GHG emissions at high altitudes. This is taken into account by all providers.

An important factor for calculating the amount of offsets generated by a project is the baseline scenario. For the determination of baselines, retailers either use their own baseline methodology, or use standardised methods per project category as required by the VCM carbon standard that they apply. All VCM carbon standards mentioned above also require that the GHG emission reductions claimed are tested on additionality.

Avoidance of double counting

For Swiss domestic projects, myclimate provides a back-up with internationally generated offsets. Similarly, PrimaKlima Weltweit offers a double compensation including both German and international offsets. This avoids problems due to an overlap with compliance systems which otherwise is mostly excluded through the limitation to international (non-Annex B) projects.

Permanence issues, primarily applying to land-use projects, are addressed by all retailers as required by the applied standards or the retailer's own system through the inclusion of risk-buffers, multiple compensations or geographical risk-spreading.

Transparency varies depending on the information sought. All retailers list the criteria and/or standards applied to offsetting projects. Most retailers also provide detailed descriptions of at least some projects. Not all retailers provide detailed information on emission calculations. Organisations that offer 'online offsetting' generally provide more details on GHG accounting methods than organisations which do not provide such online services.

Direct online offsetting is possible on seven of the ten retailer websites analysed. Six of these retailers offer an online emission calculator, including the immediate calculation of flight emissions by entering the itinerary. PrimaKlima Weltweit requires that the flight distance is manually entered and provides a long list of other offsetting options, such as for household emissions. Four retailers offer the option to choose between different projects or project portfolios online. Two retailers, who provide an online calculator for flights, enable adjusting the share of the calculated emissions to be offset (*e.g.*, 50% of flight emissions).

Conclusion

The voluntary carbon market studied is very heterogeneous with respect to to project types, prices, standards and targeted customers. This is facilitated by the fact that it is a market without mandatory requirements as opposed to, *e.g.*, the Kyoto Protocol compliance systems or the EU ETS. The diversity of retailers, products, and target groups makes it difficult to identify generic success factors. At the same time, the voluntary nature of the market seems to be one of its strengths, triggering the development of tailor-made products and innovative approaches for specific customer groups.

ENSPOL Project to Support Energy Efficiency Schemes in Europe

Recently, a new three-year EU-funded project "Energy Saving Policies and Energy Efficiency Obligation Schemes" (ENSPOL) has been launched. ENSPOL, funded by the European Commission EASME programme, is coordinated by JIN with thirteen partners from across the EU. The main aim of ENSPOL is to support Member States in setting up new or enhancing existing energy efficiency schemes, in light of the EU Energy Efficiency Directive.

The EC Directive 2012/27/EU (commonly referred to as the Energy Efficiency Directive, EED) requires each Member State to apply an energy efficiency obligation scheme (EEO) or alternative policy measures in order to achieve end-use energy savings during the 2014-2020 obligation period. ENSPOL has identified two main barriers to the introduction of new EEOs and alternative policy measures:

1. the complexity of setting them up, and
2. the range of different approaches which have already been implemented in different EU Member States (and beyond); Member States must first fully understand these before they can make informed decisions about how to design/optimize their own solutions or schemes.

In order for Member States to design and implement robust new EEOs and/or implement appropriate alternative policy measures with positive synergies to EEOs in an optimal policy mix, it is fundamental that they have good knowledge of the market. Furthermore, it is important that they understand how technologies, regions, national targets, obliged parties and key stakeholders can be affected by the measures in different ways depending on the solutions implemented. It is therefore vital that Member States ensure that their chosen solutions are tailored to the national contexts and aligned with existing incentive schemes and policies. Every Member State can thus find its own best, or worst, solution.

Create synergies

As there are many options available for creating new schemes, it is important that Member States, when considering their introduction, receive detailed information about the pros and cons of different approaches. Therefore, the main aim of the ENSPOL project is to support Member States who intend to set up new EEO schemes (Austria, Bulgaria and Greece) or implement alternative measures that could create synergies with a future EEO (the Netherlands). In addition, ENSPOL aims to inform about the on-going development of existing schemes (Belgium, Denmark, France, Italy, Poland, UK), and to support Member States with an existing EEO scheme to improve it. For that, ENSPOL will consider lessons from existing experiences.

In order to achieve this aim, the specific objectives of ENSPOL are to:

1. Assess the relative strengths and weaknesses of EEOs and alternative measures based on the existing experiences and plans of Member States, and

The Consortium

ENSPOL Energy Saving Policies

JIN - Joint Implementation Network	**Netherlands**
CRES - Center for Renewable Energy Sources and Saving	**Greece**
FIRE - Italian Federation for Rational Use of Energy	**Italy**
VITO - Vlaamse Instelling voor Technologisch Onderzoek	**Belgium**
KAPE - Polish National Energy Conservation Agency	**Poland**
EST - Energy Saving Trust	**UK**
AEA - Austrian Energy Agency	**Austria**
OUCE - University of Oxford	**UK**
UPRC - University of Piraeus Research Center	**Greece**
SEI - Stockholm Environment Institute/ University of York	**UK**
ABEA - Association of Bulgarian Energy Agencies	**Bulgaria**
DEA - Danish Energy Association	**Denmark**
ADEME - French Environment and Energy Management Agency	**France**

make recommendations for the most appropriate approaches against different criteria and under different conditions.
2. Improve the knowledge and capabilities of Member States (both within and outside of the project) with regard to the different options available for implementation of Article 7 EED (EEOs and alternative measures).
3. Ensure the effective engagement of a broad range of stakeholders with an interest in the implementation of Article 7 EED and promote a wide stakeholder consultation.
4. Complement and enhance the work of existing EU and Member State initiatives concerned with the implementation of Article 7 EED.

Among the tools to achieve these objectives, ENSPOL will use concepts such as "train the trainer", focusing on policymakers, establishment of permanent observatories both at EU and national levels (for monitoring Article 7 EED achievements), and the creation of a one-stop-shop (a web-based stakeholder platform with information and guidance on all issues relating to the implementation of Article 7 EED). Member States which have already introduced EEOs and/or alternative schemes, such as White Certificates, can also benefit from ENSPOL, as they can incorporate lessons learned from other Member States.

Member States which are not covered by the project consortium can also benefit from ENSPOL's EU-level stakeholder engagement activities, such as through cooperation with the European Energy Network. A dialog will also be ensured with the Concerted Action for the Energy Efficiency Directive, considering the limitations imposed by its operational rules. Such gathering of inputs from interested parties and ensuring the consultation with market operators at the national level is intended to support reaching the targets of Article 7 EED.

Expected results

In summary, the main expected results of ENSPOL are the following:

- Creation of favourable conditions for improved implementation of Article 7 EED in project partner countries leading to robust new schemes and /or alternative measures put in place,
- Improvement of existing schemes and/or alternative policies in partner countries, and
- Improved knowledge and capabilities of Member States outside of the project consortium to design and implement new schemes and/or alternative measures for implementation of Article 7 EED.

Box 1. Major outputs

The major outputs of ENSPOL can be summarised as follows:

1. Undertake a robust analysis of the existing and planned EEOs schemes, building on and bringing together previous research and analysis.Undertake a robust analysis of potential alternative measures or additional policies, building on and bringing together previous research and analysis. In particular the aim is to classify different alternative measures based on policies already in place or under consideration in different MS, with an emphasis on those MS with strong energy efficiency policies who have not used EEOs in the past.
2. Develop guidelines for the design, revision and implementation of robust EEOs and alternative measures that create positive synergies with EEOs in line with the requirement of Article 7 EED, including a process for ensuring the effective engagement of key stakeholders.
3. Establish observatories at national and EU level and undertake capacity building and training activities in project partner countries.
4. Create a web-based stakeholder platform: a one-stop-shop where MS can easily access information and guidance on all issues relating to implementation of Article 7 EED.

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GreenEcoNet Website Launched for supporting SMEs in a green economy

On 25 June, the GreenEcoNet project held its first annual conference in Brussels. The conference, which was attended by SMEs and their 'multipliers', emphasised that SMEs are indispensable for progressing towards a green economy in Europe. After all, SMEs make up 99% of European enterprises and are vitally important for generating European employment and patents. The main event at the conference was the launching of the GreenEcoNet web platform http://greeneconet.eu.

The main objective of the new GreenEcoNet web platform is to help SMEs in taking a first step towards benefiting from a green economy. For some SMEs this first step could be to find concrete information about green business options and familiarise themselves with these. As many SMEs are hampered by lack of funding or knowledge of where to find funding, exploring funding information could be another possible first step and help SMES accessing suitable funding sources.

A representative of the European Association of Craft, Small and Medium-sized Enterprises (UEAPME) explained at conference that greening of SME businesses may be a highly complex and relatively costly exercise, which requires individual and tailor-made solutions. Several SMEs present at the Conference correspondingly called for enhanced networking to build up skills needed for greening SME businesses.

Several SMEs presented how they successfully 'greened' their business operation after having taken the first step. The example of Elan Hair Design (Scotland) illustrated this effect as it showed how an initial step to replace light bulbs with LED lights caused an acceleration of steps to further greening of their work and becoming more resource-efficient.

The representative from the Greek company Green Air Energy showed that green business solutions can be rather simple and easily accessible once the first step has been taken. Further solutions for taking the first steps towards reducing costs and CO_2 emissions in SMEs were illustrated by the representative from the Belgian consultant CO2logic.

The GreenEcoNet web platform aims to support SMEs in taking the first step by:

- Presenting existing solutions from SMEs: these solutions are presented as case studies, which users can explore in terms of country, technology area/ sector and solution type.
- Collecting tools for supporting greening of SMEs in terms of, among others, how to analyse the benefits and costs of green SME operation, how to plan green investments, and where to find funding.
- Providing a platform for SME success stories and exchange of less successful experiences.

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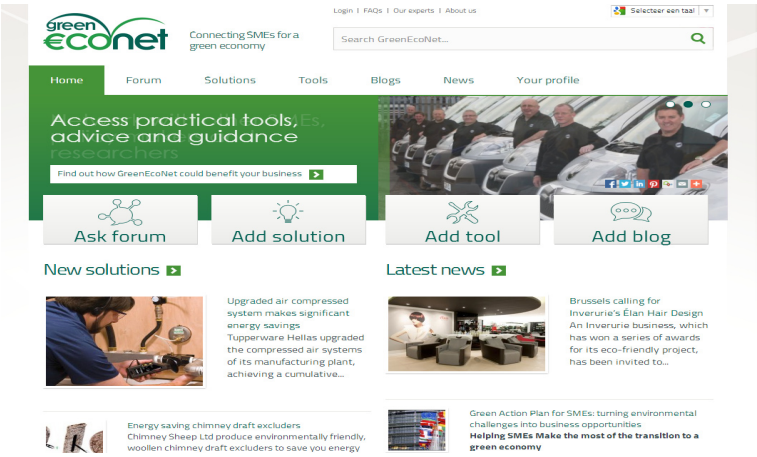

http://greeneconet.eu

SEVENTH FRAMEWORK PROGRAMME

APRAISE - Policy Contexts Matter for Effective Policies

On 23 May, the EU-funded project "Assessment of Policy Interrelationships and Impacts on Sustainability in Europe" (APRAISE - FP-7) organised a workshop in Brussels on "Improving policy makers' knowledge base for environmental policy making". The objective of the workshop was to discuss how policy makers' knowledge of environmental policy preparation and implementation can be improved by combining insights on policy effectiveness from both model-based and empirical analysis.

The APRAISE project evaluates EU environmental policies and their national implementation in Member States by comparing the intended policy results with policy achievements and explaining why a policy performs differently than expected (early results of APRAISE can be found in JIQ issues of April 2014, July 2013, December 2012, July 2012, October 2011).

APRAISE focuses on environmental policy areas which are of key importance for a resource-efficient Europe: energy, climate, agriculture, water, waste, air and biodiversity. For these areas, APRAISE explains how different Member States have formulated policies and targets, based on EU directives, and what policy instruments they have chosen for policy implementation, such as taxes, subsidies and voluntary agreements. APRAISE evaluates policy results by asking three questions (3-E):

1. What environmental policy effect was expected/anticipated in a Member States based on best available knowledge at the time of policy design (*efficacy*)?
2. What has been the actual effect of the policy instrument (*effectiveness*)?
3. Could the realised effect/impacts have been achieved with fewer resources or could a better effect/impact be achieved with the same resources (*efficiency*)?

Next to supporting achievement of environmental targets, policy instruments may also have unintended/unexpected economic, environmental and social impacts. For example, while the intended effect of a waste recycling policy may be to increase recycling rates, unintended benefits may be development of multiple waste separation technologies and enhanced consumer awareness of waste issues. APRAISE also analyses these unintended effects and how these promote EU sustainable development objectives.

The strength of the qualitative 3-E approach is that it helps to understand past and current (market) system contexts for policy instruments and their effectiveness. However, the 3-E approach is less suitable for making scenarios about future context developments and possible impacts on policy performance. For that, APRAISE applies quantitative models, which can be more micro or macro-economic depending on the respective focus. Moreover, the models can reconstruct the past by formulating 'what if' scenarios. For example, what would have been the effects of a policy in absence of the economic crisis?

At the workshop, two examples of case studies were presented which are both analysed with the qualitative 3-E method and quantitative modelling (modelling approaches applied by APRAISE can be more micro or macro-economic depending on the respective focus):

- Renewable Energy supporting policies in Greece and Slovenia,
- Enhancing recycling of plastic package material in Germany and the Netherlands.

Comments were received from several key stakeholders from the following organisations: European Commission, European Wind Energy Association, Central Planning Bureau of the Netherlands, ENEL, Swedish Foundation for Strategic Environmental Research, European Biodiesel Board, European Biodiesel Board, Municipal Waste Europe, European Suppliers of Waste to energy Technology and University of Sussex.

Renewable Energy supporting policies in Greece and Slovenia

Renewable energy support mechanisms in Greece and Slovenia have been analysed qualitatively using the APRAISE 3E method, whereas the case study for Greece has also been analysed quantitatively through the application of the Business Strategy Assessment Model (BSAM) model. The modelling results for the Greek power sector indicate that the renewable energy support policy has not been effective since it has created additional friction and negative feedback effects from customers and the system.

These negative feedback effects stemmed from saturation of the grid's ability to absorb increased amount of renewable energy power and the inability of the regulatory bodies responsible for permitting to cope with increased workload due to the increased number of projects requesting permits. The same conclusions were drawn by the qualitative analysis where the difference between the scope of the feed-in tariff scheme and its eventual unilateral effectiveness and overall

poor efficiency was analysed in more depth according to: technological and political contextual factors (i.e., grid capacity, technology innovation effects, distortions and lack of maturity in the electricity market), as well as deviations between planning and practice in the design elements of the scheme (i.e., policy inconsistencies and lack of coherence, monitoring and adjustment system).

Enhancing recycling of plastic package material in Germany and the Netherlands

For this case study, the Global Trade Analysis Project (GTAP) has been adjusted to allow for an analysis of plastic packaging material used in the food sector in Germany and the Netherlands, which is the most important sector for use of plastics for packaging products.

With GTAP, four different scenarios have been developed in order to analyse the economic context for the case study during 2008-2012 and beyond. The scenarios are based on different assumptions about political and economic developments (e.g., economic developments and climate and trade policies) and they have been further developed to address questions which are most relevant to the policy instruments focussed on in the case study (in particular the packaging tax). The four scenarios developed for further analysis are:

- *Business as usual*: this scenario contains consensus projections for macro developments, including major policies in place or agreed. Its main assumption is that economic growth remains slow with corresponding low prices for GHG emissions.
- *Counterfactual high growth*: this scenario shows what could have happened without the recent economic crisis and if pre-2008 economic growth figure had continued until 2020. Compared to business as usual, the scenario assumptions imply 20% increase of global investments by 2020, with a 5% increase in global trading.
- *Global climate agreement*: this scenario assumes adoption of an ambitious global climate agreement, with a resulting increase in GHG emission credit/allowance prices of 50% by 2020 compared to current levels. As a result, oil prices will decrease by 25% by 2020.
- *Trade war*: in this scenario it is assumed that global trading will be hampered by increased trade protection, leading to a 2% drop in world trade and an isolated EU trade position with high tariffs for EU imports and exports.

With help of the above-mentioned context scenarios, a clearer picture has been obtained of how Dutch and Germany Food and Plastics industries respond to different economic and policy contexts, in terms of production, exports and imports. Based on that, a model simulation has been carried out to analyse the impact of a packaging tax on the production and supply of food products (again, this sector is the largest user of plastic packaging material) in both countries.

Figure 1 shows the results for the Netherlands by comparing the situation of a packaging tax in the Netherlands only with a (hypothetical) situation in which all EU Member States implement such a tax. It shows that a national packaging tax only has little impacts on Dutch food production, as more food products are exported (especially in the short run). This shows that a packaging tax in the Netherlands favours exports of domestic products, as in other countries these products are not subject to such a tax. At the same time, it can be seen that domestic consumption of food products decreases as these products become more expensive due to the tax.

This reduction in consumption is mainly covered by reduced imports of food products, which can be

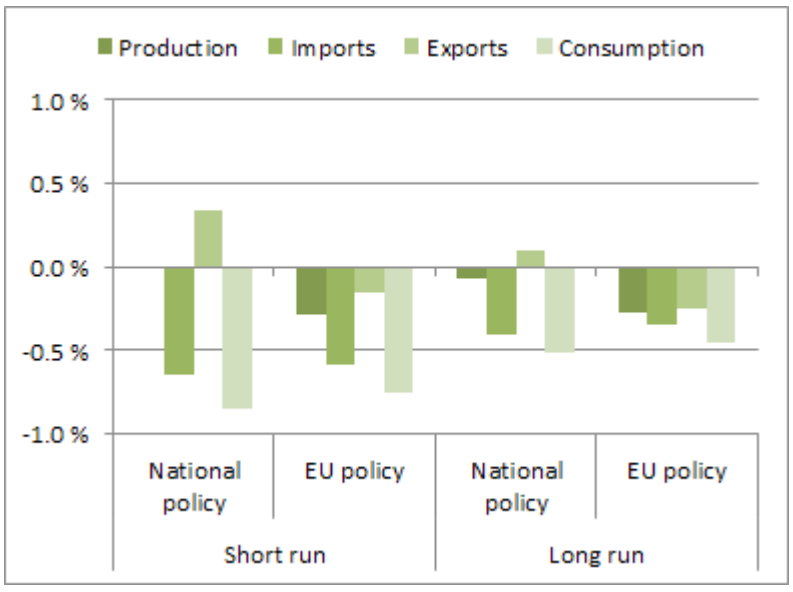

Figure 1. Impact of packaging tax on food industry in the Netherlands.

explained by the limited response by foreign suppliers to a Dutch packaging tax. For instance, a multinational supplier is unlikely to change its packaging strategy on the basis of a tax introduced in one country (especially when that country has a relatively small market, such as the Netherlands). The reduced consumption and imports also seem to confirm that the packaging tax is almost entirely absorbed into consumer prices. Finally, the comparison between a national Dutch packaging tax and EU-wide packaging taxation shows that a 'plastic leakage' through increased exports, as in the case of a national tax only (see encircled bar in Figure 1), would have been considerably reduced with a coordinated EU policy.

Finally, a 'what if' scenario for Germany has been developed with GTAP to simulate what would happen in case a German packaging tax had been implemented. Interestingly, the simulation shows that in Germany a packaging tax, similar to the Dutch one, would have had a negative impact on food industry production figures. This observation could be explained by the fact that the German domestic market is much more dominant in terms of food products demand than in the Netherlands, where a relatively large share of food is exported.[1] As a result, a German packaging tax is less easily "leaked" through exports, so that the impact on domestic consumption is relatively strong and production figures respond to that.

Conclusions

Based on the case study discussions and comments received from commentators, the following conclusions have been drawn:

1. When formulating policy targets and selecting policy instruments, it is important to acknowledge that **policy instruments are not implemented in a vacuum** and that for understanding their effectiveness a deep understanding is needed of the implementation context. Qualitative tools, such as the APRAISE 3E method, can help understand the policy context and support policy evaluation by comparing the achieved policy effect with the intended effect and explain the difference between the two by analysing: developments in the policy's economic, environmental and social context, the policy design and implementation cycle and possible interactions with other policies. Based on the APRAISE conclusions, improved communication between ministries/governmental agencies is recommended in order to avoid negative policy interactions and improve policy effectiveness.
2. **Quality of data when analysing policy effectiveness matters in policy evaluations**, such as in APRAISE, in two respects: a. Reality of published data (*e.g.*, does the monitoring reveal actually achieved policy effects), and b. Quality of data (e.g., micro studies may show results not appearing in macro studies, which could imply that macro data even out positive and negative effects, thereby reducing the information value of macro data).
3. Regarding the **need for environmental targets** two views were expressed. On the one hand, targets trigger policy makers and stakeholder to consider measures and behavioural change. On the other hand, targets, when achieved, may not reveal progress with underlying factors. Alternatively, it was suggested that targets could be formulated for underlying factors (e.g., technology investments, research, education) for achieving environmental goals. For these targets, both qualitative evaluation methods such as APRAISE 3E and quantitative methods can be applied.

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[1] It is acknowledged that the German export shows a growth rate due to a packaging tax, but that growth is based on a relatively small absolute amount of food exports, so that its impact on absolute domestic production remains relatively small.

Final APRAISE Conference 24 September 2014, Brussels

"What Role for Targets in EU Climate and Energy Policy?"

Brussels, 24 September 2014
Venue: CEPS, Place du Congrès 1, B-1000 Brussels

- Session 1 (morning): **Key results of the APRAISE Project**
- Session 2 (morning): **Improving renewable energy policy making**
- Session 3 (afternoon): **Improving energy efficiency policy making**
- Session 4 (afternoon): **The contribution of APRAISE to policy consistency & coherence**

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A Level Playing Field for European Biomethane Markets - The Case of The Netherlands and Germany

The Netherlands and Germany have well-developed biogas and biomethane markets, with a competitive edge in the European renewable energy market. Both countries have a set of renewable energy support schemes, which are key drivers for the development of renewables. However, these schemes are under pressure on both sides of the border, as public budgets are under strain.

In recent years, the EU has launched a series of policy initiatives (*e.g.* new state aid guidelines on environmental protection and energy[1] and the Renewable Energy Directive[2]) which signal the need for cross-border cooperation and promote a deeper integration of renewables in the EU energy market. Removing market distortions, as well as lowering the costs of meeting the renewable energy and climate targets, are amongst the key drivers for such policy initiatives. For the Netherlands and Germany, in order to keep their competitive edge in the field of biogas and biomethane, it is important to understand the dynamics of an expanding cross-boundary market for renewable energy. This would not only reinforce the strength in the domestic markets, but also create export opportunities to other areas in Europe.

With expected increases in cross-border bio-energy trade and increased use of harmonised market-based trading and certification instruments (*e.g.* carbon credit and bioticket trading, guarantees of origin and sustainability certifications), competitive distortions due to national differences in policy schemes can be prohibitive for a deeper level of market integration. Present renewable energy support schemes in the EU are still largely non-harmonised, which leads to inefficient or suboptimal investment allocations, subsidy competition, as well as an inefficient distribution of costs among end users. As a result, renewable energy and climate targets are achieved less cost-effectively with lower competition in renewable energy markets.

This article is based on an INTERREG research project (see Box 1), which aims at a better understanding of the impacts of the currently non-harmonised institutional environment for biogas promotion and how harmonisation may improve this situation. The project focuses on the Netherlands and Germany.

Key differences

The study has identified the key differences in the policy regime for the Netherlands and Germany. In addition, a scenario analysis has been performed to better understand the implications of full policy harmonisation. Here, the current German institutional regime has been extrapolated to the Netherlands, and vice versa, which allowed for a two-country simulation of the biomethane market: 1) under a scenario of non-harmonisation, and 2) a scenario of full harmonisation. The institutional differences between the countries have been important inputs for performing the scenario analysis.

The project has focused on six institutional themes: biomethane injection into the natural gas network, feed-in of renewable energy into the electricity grid, feed-in subsidies and tariffs, administrative biofuel trade in the transport sector, sustainability certification, and guarantees of origin. Some of these themes are further explained below. The scenario analysis is currently (July 2014) being performed.

Biomethane injection into the natural gas grid

Dutch producers of biomethane to be injected into the natural gas generally have more responsibilities and face higher costs than their German counterparts. At the same time, their flexibility with respect to grid balancing is lower, while their priority grid access is also less certain than in Germany. In Germany, generally 75% of the network connection expenses are paid by the gas network operators, who can level these costs off via the gas transport tariffs.

The Gas Network Access Regulation (*GasNZV*) stipulates that German network operators are obliged to connect all producers to the grid, and to reinforce the grid if necessary. Dutch network operators, on the other hand, may refuse a connection on the basis of inadequate capacity. Along the same lines, German producers have the legal certainty that feed-in capacity is available for them at all times, while Dutch producers are expected to cut back their biomethane injection in times of lower demand.

[1] http://europa.eu/rapid/press-release_IP-14-400_en.htm
[2] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:140:0016:0062:EN:PDF

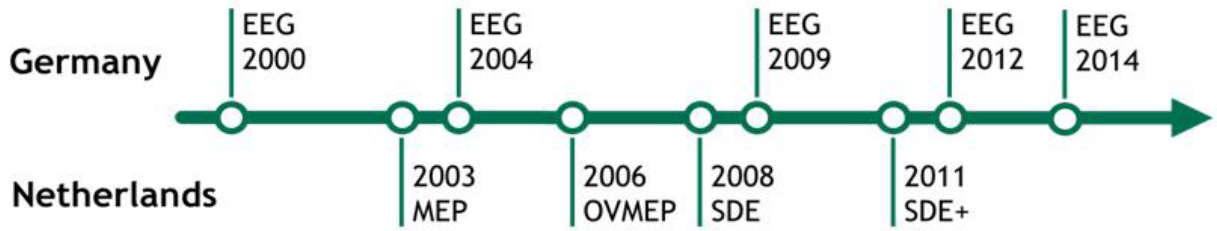

Figure 1. Timeline of the renewable energy promotion policies in Germany and the Netherlands

Renewable energy support policies

Both Germany and the Netherlands have a long history of renewable energy support schemes, with many changes over the last 15 years (see Figure 1). In both countries, feed-in support schemes are currently active: the *EEG* (Renewable Energy Act) version of 2012 in Germany and the *SDE+* system (Stimulation of Sustainable Energy Production) in the Netherlands. In August 2014, a new version of the *EEG* will come into force.

Although in both countries the main renewable energy support scheme is a feed-in system, there are considerable differences. While renewable gas is directly subsidised in the Netherlands, the German *EEG* scheme is only available for renewable electricity (although it includes premium for biogas upgrading). Biomethane producers can thus only benefit from the *EEG* in case of supply to cogeneration plants that receive the EEG tariff (incl. the premium) for the produced electricity. In Germany, all producers that feed renewable energy into the electricity grid receive the *EEG* tariff, for which in theory an unlimited budget is available. The *EEG* scheme is financed by adding a levy ('*EEG-Umlage*') on electricity bills, which covers the losses incurred by the electricity network operators that pay the *EEG* tariff and sell the electricity.

In the Netherlands, on the other hand, the *SDE+* scheme is financed with energy tax revenues. The budget is annually maximised by the government. Dutch renewable energy producers have to follow an application process (under competitive bidding with other forms of renewable energy) in order to have a chance of receiving the financial support (an environmental permit should be already available before application).

A comparison of *SDE+* rates and the estimated share for the biomethane producer of the German *EEG* tariff shows that the German payments per unit of energy are slightly higher: for a specific facility type,[3] the feed-in tariff would be 66.6 €cents in Germany and 58.2 €cents per Nm^3 in the Netherlands. Considering the longer duration of the subsidy (20 years in Germany, versus 12 years in the Netherlands) and also considering that different shares of the grid-connection costs have to be paid from the feed-in subsidy (25% in Germany and 100% in the Netherlands), the net revenue per unit of energy is expected to be significantly higher in Germany.

Certification schemes

In addition to the energy commodity market described above, there are also markets for selling the 'green value' of renewable energy (including biomethane). The most well-known market examples of such green value trade are: guarantee of origin certificates (GoOs), biotickets (proof of performance for blending obligations in the transport sector) and CO_2-credits. In the Netherlands, biomethane producers can trade GoO certificates independently from the underlying biomethane commodity.

Next to energy and GoO sales, most Dutch biomethane producers also receive some form of feed-in subsidy. Selling GoOs (estimated at 0,04 – 0,08 €/Nm^3) currently provides a modest 'bonus' on top of the SDE+ subsidy. As such, GoO schemes are, by far, not strong enough to finance biomethane initiatives. The value of GoOs should at least increase by a factor eight in order to become a robust substitute for the feed-in scheme. In Germany, GoO certificates have a purely administrative function and are not traded separately from the underlying commodity, and thus do not have their own market value.

While the GoO certificates are far away from becoming a viable substitute for any feed-in scheme, the market value of renewable fuel blending obligations (*i.e.* biofuel quota or biotickets) already provides a more robust price signal to biomethane producers and suppliers. The Dutch and German regimes depict that biomethane, for which feed-in subsidies have been received, cannot be used in transport for meeting the renewable fuel blending obligations. As a result,

[3] For the calculation, several assumptions have been made. The calculation is for the year 2012, assuming 8,000 full load hours and a production of 3.5 million Nm^3 biomethane per year, feeding into the L-gas network.

biomethane producers have to choose between the feed-in regime or the renewable fuel quota regime as a main source of additional income.

It might be preferred to allow for more flexibility, whereby biomethane producers have a daily choice between delivering biomethane to the transport sector and receiving the feed-in subsidy. An important policy development in this regards is the German market premium scheme, which offers renewable electricity suppliers a monthly choice to either make use of the existing *EEG* scheme, or accept a market premium by marketing their electricity themselves.

Allowing biomethane suppliers more flexibility with regard to which markets they want to serve should increase the prices they receive for the energy product. This would also optimise the revenues from selling the 'green value'. For example, the price of double-counting biotickets in the Netherlands (sufficiently reliable information about German renewable fuel quota obligation prices is not available) should be approximately 3 times higher in order to be able to compete with the *SDE+* subsidy. Although this would still not result in a robust substitute for feed-in tariff schemes, it would enable some of the lower cost biomethane production facilities to produce without direct feed-in support (thereby freeing up feed-in funds for other projects assuming public budgets are limited).

Outlook

In order to make a more market-based, demand-driven financing model for bioenergy a credible substitute for feed-in schemes, further development and use of internationally accepted and harmonised market-based instruments is needed. Moreover, further institutional harmonisation among regulatory systems for renewables in European countries is crucial.

The next stage of the study will focus, through scenario analysis, on the possible positive and negative effects of such institutional harmonisation on the 'playing field' of the European biomethane markets. The results of this analysis will be presented later this year. In its final stage, the study will also reflect on the desired policy environment, taking into account the barriers and limitations of the current certificate trading schemes, and possible transitional issues in relation to the expected shift from the supply-side driven incentives to more demand-side driven and market-based policy frameworks.

Box 1. Project background

The research project 'A level playing field for the European biogas and green gas markets' focuses on the possibilities for cross-border trading of biomethane and associated certificates. The national differences between biomethane pathways in the Netherlands and Germany have been examined as case studies, along with their impacts on competition. The project consortium consists of JIN Climate and Sustainability, Jacobs University Bremen and the University of Oldenburg.

The project is part of the 'Groen Gas – Grünes Gas' programme, in which 63 governments, research institutes and businesses work together on 18 research projects that aim to solve bottlenecks in the value chain of biogas and biomethane in the Netherlands and Germany. The programme is co-funded within the framework of the INTERREG IV A programme Deutschland-Nederland.

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GroenGas - GrünesGas
Project Interreg IVA Nederland - Deutschland

INTERREG - Grenzregionen gestalten Europa
Europäischer Fonds für Regionale Entwicklung der Europäischen Union
INTERREG - Grensregio's bouwen aan Europa
Europees Fonds voor Regionale Ontwikkeling van de Europese Unie

GGBP Report Presents Lessons from Global Green Growth Experiences

On 1 July of this year, the Green Growth Best Practice (GGBP) initiative launched its final report: Green Growth in Practice: Lessons from Country Experiences. The report is the result of a collaborative partnership between the Climate & Development Knowledge Network (CDKN), the European Climate Foundation (ECF) and the Global Green Growth Institute (GGGI). It is the culmination of more than a year of work by over 75 green growth practitioners from around the world. The report is available at www.ggbp.org.

The report contains an international assessment of best practices and lessons from experiences of pursuing green growth policies across all levels of government. It is designed to be used by governments, development assistance agencies, researchers, and other stakeholders, in helping countries to adopt effective green growth practices to transition their economies away from fossil fuels in ways that result in sustainable growth. Earlier articles on GGBP can be found in JIQ, October 2012 (GGBP launch) and JIQ, October 2013 (GGBP initial findings).

Some of the key findings of the report are:

- **Green growth can unlock substantial economic, social, and environmental benefits**. Green growth strategies enable governments to achieve significant near and long-term benefits in economic growth, environmental protection, and poverty reduction. These synergistic benefits can be achieved through improvements in resource efficiency and management, support for green technology and business innovation, and investment in initiatives to mitigate the risks and costs of this transition to green development.
- **Integrated and robust planning, analysis, implementation, and monitoring are essential**. Green growth strategies tend to be most effective where they link robust and credible planning, analysis, implementation, and monitoring processes in an iterative and reinforcing cycle and with active stakeholder engagement.
- **Broad support for transformative change is required**. Green growth plans are most effective when driven by ambitious yet achievable visions with high level and broad government and stakeholder support. They should pursue both near and long-term opportunities for dynamic shifts in resource management, technology use, community development, industrial practices and competitiveness, education and worker training, and other factors.

An important characteristic of the GGBP initiative is that the results are drawn from an assessment of more than 60 programmes around the world by over 70 green growth practitioners. These authors have focused on elements commonly used by governments in green growth planning, analysis, implementation, and monitoring.

The full report is available at: http://www.ggbp.org with additional case studies.

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Box 1. About the GGBP

GGBP is an effort to assess green growth planning and implementation practices around the world and find what works best under what circumstances, so as to assist policy makers and practitioners to improve the quality of green growth efforts. Launched in October 2012 the GGBP is supported by three organizations – Global Green Growth Institute (GGGI), Climate Development and Knowledge Network (CDKN), and European Climate Foundation (ECF).

GGBP is governed by a steering committee.

In close collaboration with various regional and global partners, GGGI (UK), Ecofys (Germany), ECN (the Netherlands), JIN (the Netherlands) and NREL (USA) GGBP is conducting a broad array of activities to build awareness and support use of the findings of this assessment, including presenting results through seminars and dialogues requested by government agencies and partnering with others on policy dialogue workshops, e-learning and peer learning programmes.

Bodansky, D. and E. Diringer, 2014. Building Flexibility and Ambition into a 2015 Climate Agreement, Center for Climate and Energy Solutions <http://www.c2es.org/docUploads/int-flexibility-06-14.pdf>

This paper explores options for a hybrid approach in the 2015 agreement, focusing in particular on mitigation efforts, rather than the broader array of issues under consideration in the Ad Hoc Working Group on the Durban Platform (ADP), such as finance, technology, and adaptation. It looks at the rationales for a hybrid approach, ways to design hybridity into an international agreement, and how top-down and bottom-up approaches have figured in the UNFCCC's evolution. Finally, the paper examines the types of top-down features that could complement nationally determined contributions to promote greater ambition, including a long-term goal as a benchmark for evaluating countries' efforts, reporting and review procedures to promote transparency and accountability, and provisions for updating or initiating the next round of commitments. In doing so, it also considers cross-cutting issues such as timing, the overall structure of the agreement, the differentiation of countries' obligations, and ways to make the 2015 agreement dynamic and, in turn, durable.

Frieden, D., D. Steiner, C. Fruhmann, S. Woess-Gallasch and A. Tuerk, 2014. Survey on the European Voluntary Carbon Market, JOANNEUM RESEARCH.

This report presents a comparison of ten retailers of the European voluntary carbon market. The results provide for a comparison with the Austrian market in terms of products, services and framework conditions in the respective countries. A range of products and services were identified in Europe that are not or only to a limited extent present in Austria. This indicates a potential for new services and products assuming a corresponding demand. Work package three of the project VCM-AT undertakes a qualitative survey of the demand for specific products and desired characteristics of the VCM in Austria. This will form the basis for specifying the potential for an expansion or adaption of the Austrian VCM.

Kuriyama, A. and K. Koakutsu, 2014. Need for an Assessment of the Kyoto Mechanisms, IGES Climate and Energy Area, IGES Issue Brief, May 2014 <http://pub.iges.or.jp/modules/envirolib/view.php?docid=5376>

In April 2014, the Annex B countries of the Kyoto Protocol published the number of transactions of Kyoto units that had taken place by the end of 2013, as well as the GHG emissions of the Annex B countries in 2012. This report summarises how each country achieved their emission reduction targets during the first commitment period of the Kyoto Protocol. The main conclusions are:

- EU15 countries transferred 989 million tCO_2 of AAUs and 32 million tCO_2 of Removal Units (RMUs), as well as acquired 348 million tCO_2 of ERUs, 670 million tCO_2 of CERs and 79 million tCO_2 of RMUs. By using these units, the EU achieved a reduction of 12.2% from the base year.
- The countries with economies in transition (EIT) countries transferred 1,741 million tCO_2 of AAUs and ERUs in total, while they acquired 9,257 million tCO_2 of CERs. As a result, the EIT countries still have a surplus allowance of 9,257 tCO_2.
- Japan achieved a 8.4% emissions reduction from the base year using GHG removals by sinks, AAUs from the Czech Republic and Ukraine, as well as primary CERs. Because Japan had an initial assigned amount that was less than the country's GHG emissions over five years from 2008 to 2012, it was necessary to use a large amount of Kyoto units to achieve Japan's target.
- The five-year GHG emissions from Annex B countries of the Kyoto Protocol came to 9.3 billion tCO_2 (22% reduction from the 1990 level). When the CERs and RMUs are counted, the GHG emissions are calculated at 8.9 billion tCO_2 (26% reduction from 1990 the level).
- For the next step, it will be necessary to conduct research into what extent the Kyoto Mechanism could contribute to substantial GHG emission reductions in consideration of external factors, such as economic recession and structural changes to energy supplies.

Lambe, F., M. Jürisoo, C.M. Lee, and O. Johnson, 2014. Can carbon revenues help transform household energy markets? A scoping study with cookstove programmes in India and Kenya, SEI Project Report 2014-01 <http://www.sei-international.org/publications?pid=2522>

This report uses case studies of India and Kenya to examine the growing role of carbon finance in cookstove projects, with a focus on how it might support market transformation. Efforts to bring cleaner, more efficient stoves to the billions of people who use traditional biomass for cooking and heating have gained new momentum in recent years, driven both by longstanding health and environmental concerns, and by a growing recognition of the importance of modern energy access for development. In this context, carbon finance is emerging as an attractive option to help scale-up cookstove projects, through the CDM and through voluntary markets, where demand for credits from cookstove projects has been rising rapidly.

In order to assess how cookstove projects are using carbon finance, this report reviews PDDs for 75 carbon-financed cookstove projects in India and Kenya (in combination with interviews). A consensus is emerging among policy-makers and donors that a market-based approach is needed to scale-up cookstove initiatives and ensure their long-term sustainability. The literature on cookstove initiatives and prior SEI research suggest that projects face two

key challenges: motivating households to adopt and use the new stoves, and securing adequate resources for project implementation, including startup costs, market research, product development, outreach and promotion, finance for users (*e.g.* microloans), and after-sales support and monitoring. The analysis presented in this report focuses on how carbon finance might help or hinder projects in meeting those challenges.

Luckow, P., E.A. Stanton, B. Biewald, J. Fisher, F. Ackerman and E. Hausman, 2013. 2013 Carbon Dioxide Price Forecast, Synapse Energy Economics, Inc., Cambridge, MA, USA <http://www.synapse-energy.com/Downloads/SynapseReport.2013-11.0.2013-Carbon-Forecast.13-098.pdf>
The Synapse 2013 CO_2 price forecast is designed to provide a reasonable range of price estimates for use in utility Integrated Resource Planning and other electricity resource planning analyses. The current forecast updates Synapse's 2012 CO_2 price forecast, published in October 2012. Our 2013 forecast incorporates new data that have become available since 2012, in order to provide useful CO_2 price estimates for utility resource planning purposes.

Peters-Stanley, M. and G. Gonzales, 2014. Sharing the Stage -State of the Voluntary Carbon Markets 2014, Ecosystem Marketplace < http://www.ecosystemmarketplace.com/pages/dynamic/resources.library.page.php?page_id=10416&section=library&eod=1>
This report shows how during 2013 voluntary carbon offset buyers saw a record volume of offsets transacted from projects that deliver climate and community-facing outcomes in developing countries. Throughout the years of market activity tracked in the report series, voluntary buyers have directly funded 844 $MtCO_2$-eq in emissions reductions worth USD4 billion, at an average historical price of USD5.9/tCO_2-eq. In 2013, offset suppliers transacted 76 $MtCO_2$-eq. of carbon offsets (down from 102.8 $MtCO_2$-eq. in 2012) as structural changes in California's carbon market impacted millions of previously "voluntary" tonnes. Market value fell to USD379 million, tracking alongside lower average prices (USD4.9/ tCO_2-eq. market-wide).

The volume of offsets transacted directly from projects declined (down 40% and 58% from 2012, respectively). Governments played an important market role in 2013, as both offset buyer and supplier, while private sector-led offset demand fell by 46% to 35 M tCO_2-eq. A full 20.3 $MtCO_2$-eq was attributed to multinational corporate buyers. Energy, transportation, finance, and insurance providers were also key buyer types.

Warmenhoven, H., E. Dalenoord and M. Voogt, 2014. De mogelijkheden van de vrijwillige koolstofmarkt in niet ETS sectoren in Nederland (Dutch: Voluntary carbon market opportunities in Dutch non-ETS sectors), De Gemeynt in collaboration with SQ Consult.
The Netherlands Ministry of Infrastructure and Environment has commissioned a study on the possibilities of using the voluntary carbon market to stimulate emission reductions in sectors not covered by the EU ETS. The study charts the consequences of available policy options when it comes to stimulating this market. The study recommends to start with an experiment aimed at the realisation of a national crediting system, whereby market actors should take the lead. The government, however, should be involved to ensure the credibility of such a system. In the initial phase, it is not necessary for the government to retire Dutch annual emission allocations (AEAs) for the created credits. Later, if there are higher international VER prices and Article 24a of the EU ETS Directive is implemented, the retirement of AEAs could be required as it opens up a larger market for the credits. Given the potential future linking to the EU ETS, it is important that the crediting system used for the experiment is sound and, preferably, derived from recognised international standards such as the VCS or the Gold Standard or on national level, the CO_2 performance ladder.

World Bank Group and Ecofys, 2014. State and Trends of Carbon Pricing 2014, Washington, D.C., USA <http://www.worldbank.org/en/news/feature/2014/05/28/state-trends-report-tracks-global-growth-carbon-pricing>
This report concludes that despite the difficult ongoing international climate negotiations, there is an increased focus on climate change policy and several economies are planning, implementing or refining domestic mitigation actions. At the international level, the second commitment period of the Kyoto Protocol covers only 12% of global GHG emissions. With only nine countries ratifying to date, all eyes are on the COP in Paris (2015), which offers an opportunity for convergence on concerted international climate action. According to the report, a consensual and robust international solution could revive private sector confidence to invest in carbon markets, as they remain reluctant to engage, having experienced significant losses within recent memory.

The report concludes that it is the continued traction at regional, national and sub-national levels that shows some promise for the future. Today, about 40 countries and over 20 sub-national jurisdictions are putting a price on carbon. Together, these carbon pricing instruments cover almost 6 $GtCO_2$-eq. or about 12% of the annual global GHG emissions.

The **Joint Implementation Quarterly** is an independent magazine with background information about the Kyoto mechanisms, emissions trading, and other climate policy issues. *JIQ* is of special interest to policy makers, representatives from business, science and NGOs, and staff of international organisations involved in climate policy negotiations and operationalisation of climate policy instruments.

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Abbreviations

AAU	Assigned Amount Unit
ADP	Ad Hoc Working Group on the Durban Platform for Enhanced Action
Annex A	Kyoto Protocol Annex with GHGs and sector/source categories
Annex B	Annex to the Kyoto Protocol listing the quantified emission limitation or reduction commitment per Party
Annex I Parties	Industrialised countries listed in Annex I to the UNFCCC. Countries not included in Annex I are called Non-Annex I Parties
Annex II Parties	OECD countries (listed in Annex II to the UNFCCC)
CDM	Clean Development Mechanism
CDM EB	CDM Executive Board
CER	Certified Emission Reduction (Article 12 Kyoto Protocol)
COP	Conference of the Parties to the UNFCCC
COP-MOP	COP serving as Meeting of the Kyoto Protocol Parties
DOE	Designated Operational Entity
DNA	Designated National Authority
ERU	Emission Reduction Unit (Article 6 Kyoto Protocol)
EU ETS	European Union Emissions Trading Scheme
EUA	European Union Allowance (under the EU ETS)
GHG	Greenhouse Gas
JI	Joint Implementation
JISC	Joint Implementation Supervisory Committee
LCDS / LEDS	Low carbon (or emission) development strategy
LULUCF	Land Use, Land-Use Change and Forestry
NAMA	Nationally Appropriate Mitigation Actions
NAP	National Adaptation Programmes
PDD	Project Design Document
REDD	Reducing emissions from deforestation and forest degradation in developing countries
SBSTA	Subsidiary Body for Scientific and Technological Advice
SBI	Subsidiary Body for Implementation
TNA	Technology Needs Assessment
UNFCCC	UN Framework Convention on Climate Change

JIQ Meeting Planner

9-11 September 2014, Washington, D.C., USA
2nd International Conference on Evaluating Climate Change and Development -"Tackling a Key 21st Century Evaluation Challenge"
Contact: David Akana, dakana@thegef.org

24 September 2014, Brussels, Belgium
Final APRAISE Conference What Role for Targets in EU Climate and Energy Policy?"
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15 October 2014, London, UK
2nd POLIMP stakeholder workshop on financing renewable energy
Contact: Eleonora Arcese, Climate Strategies Research Associate, tel. +44 (0) 203 108 5936, e-mail: eleonora.arcese@climatestrategies.org

1-12 December 2014, Lima, Peru
COP 20, CMP 10, SBI 41, SBSTA 41, ADP 3
Contact: http://unfccc.int/meetings/lima_dec_2014/meeting/8141.php